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EXAMINER	
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2446	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,472	SAFFRE, FABRICE TP	
	Examiner	Art Unit	
	SULAIMAN NOORISTANY	2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _05 August 2008_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1,3-6,8-12,14-17,19-27 and 29-31_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,3-6,8-12,14-17,19-27 and 29-31_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _4/6/2005_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _7/8/2005_.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

This Office Action is response to the application (10/530472) filed on 05, August 2008.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3-6, 8-12, 14-17, 19-27, 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gregerson.** US Patent No. **US 5,699,351** further in view of in view of **O'Toole.** US Patent No. **US 7,117,273.**

Regarding claim 1, Gregerson teaches wherein a node for a network, the network comprising a hierarchical structure in which a node is considered to be at a higher level than a parent node to which it connects when joining the network, the network having a topology type in which each node joining the network is considered by the same connection rules to have a maximum number of connections, and wherein the peripheral nodes are not allowed to have fewer connections than the more central nodes in the network, the node being adapted to join the network by applying said connection rules, the rules comprising the following steps in order to join a new node to said network in which each node has a maximum of k connections:

identifying a parent node at a lowest level in the network that is able to maintain

secondary connections to other nodes in the network of the same lowest level **(Fig. 9 -- is a diagram showing the roll call communication between different nodes in accordance with the present invention – col. 3, lines 51-53; FIG. 14 is a diagram showing the election communication between different nodes in accordance with the present invention – col. 2, lines 65-67);**

Initiating and maintaining a specified number k-1 of further secondary connections between the node and other nodes in the network having the same level in the hierarchy as the node **(A kernel at level n is termed to be a child of its parent kernel at level n+1 provided that two kernels have the same name above level n – Col. 7, lines 41-44).**

However, Gregerson is silent in terms of "*terminated and reallocated of the nodes" and* "*spare connection*".

O'Toole teaches that is well known to utilize by requesting one of the secondary connections of the parent node to other nodes in the network of the same level to be terminated and reallocated to the node if the identified parent node has no free links to become a primary connection between the identified parent node and the node at a lower level in the network hierarchy **(Each child node periodically checks in with its parent nodes, and the parent nodes can thus determine when a child node has terminated a relationship with the parent or created "here is same as re-allocated" a new relationship with a new parent -- Abstract)** and

the node advertise a spare connection to maintaining k connections to each node **(broadcasting and the Alt-route –FIG. 2 illustrates an example of relationships**

among nodes in a network, including a creation signal and a termination signal generated by nodes configured to operate in accordance with embodiments of the invention – col. 6, lines 30-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gregerson's invention by using the system of a network in which nodes such as a host, a hub, rooter, etc. are interconnected, each node is indicated by an icon, and the connection between the nodes is indicated by a line. A node to be regarded is positioned in the center of the map as a root, and a node directly connected to the root is arranged as a node at the second hierarchical level on the circumference of the circle with the root centered. Similarly, the network configuration is assumed to be a hierarchical structure with the root centered, where the root can receive change information, because each child node in the node tree periodically checks in with its parent and reports its status to the parent, as well as information on the status of descendants of the child in the network. For example, a new parent of a child reports a creation signal (e.g., creation of a relationship between the node and a child) when a child node connects to a new parent node. A parent node can also generate a termination relationship signal (e.g., termination of a relationship between the node and a child) when one of its child nodes ends the relationship with the parent node (e.g. stops checking in). At a higher level in the tree, if an intermediate node (e.g., parent node intermediate between lower level parents and the root) receives several creation and termination signals for a lower level node (e.g., a child node that has moved several times), it can report only the most recent creation and termination

signals to higher level nodes in the network. Thus, the root only receives the creation and termination signals that are most recent for a given node (e.g., child node). In addition, the node that received the change relationship signal locates an entry in the map corresponding to the parent node, and updates the entry for the parent node to indicate that the child node is no longer a child of that parent node, where this indicates that there was spare or free link created and would be available to accept the new child node which were from depended on different parent nodes or failed their connectivity with their parent node, as taught by O'Toole.

Regarding claim 3, Gregerson and O'Toole together taught the method of a node as in claim 1 above. Gregerson further teaches wherein to attempt to maintain the specified number of k-1 further connections between the node and other nodes in the network by periodically carrying out:

for each unallocated one of the k-1 connections, selecting a node from one or more candidate nodes, and forming a connection with the selected node **(A kernel enters the network by running the Login process to locate its parent kernel, Col. 7, Lines 56-67),**

O'Toole further teaches wherein until either the k-1 further connections have been successfully completed or there are no more candidate nodes **(FIG. 2 illustrates an example of relationships among nodes in a network, including a creation signal and a termination signal generated by nodes configured to operate in**

accordance with embodiments of the invention – col. 6, lines 30-33).

Regarding claim 4 Gregerson and O'Toole together taught the method of a node as in claim 1 above. Gregerson further teaches wherein the step of selecting the peer node comprises selecting the peer node at random from the one or more candidate nodes **(The present invention is a dynamic, Symmetrical, distributed, real-time, peer-to-peer system comprised of an arbitrary "here is same as random" number of identical, Col. 2, Lines 46-53).**

O'Toole further teaches **(nodes are chosen at random – Col. 31, lines 26-27).**

Regarding claim 5, Gregerson and O'Toole together taught the method of a node as in claim 1 above. Gregerson further teaches wherein the step of selecting the node comprises selecting the node on the basis of the range of the candidate nodes to the node **(The configuration parameter MaxStatus imposes a ceiling on the highest level of which the kernel can be a manager. A kernel at level n is termed to be a child of its parent kernel at level n+l -- Col. 7, Lines 39-44).**

Regarding claim 6, Gregerson and O'Toole together taught the method of a node as in claim 1 above. Gregerson further teaches wherein the network comprises an overlay network formed over an underlying network of nodes **(Fig. 14, underlying mix of physical topologies -- Col. 2, Lines 59-60)**, and wherein the range between a candidate node and the node comprises the number of links between them in the

underlying network **(A kernel at level n is termed to be a child of its parent kernel at level n+l provided that the two kernels have the same name above level n -- Col. 7, Lines 39-44).**

Regarding claim 8, Gregerson and O'Toole together taught the method of a node as in claim 1 above. O'Toole further teaches wherein to identify another node as a prospective parent node on the basis of the range of the other node to the node **(Fig. 1, unit 33 – sample map – col. 8, lines 26-27).**

Regarding claim 9, Gregerson and O'Toole together taught the method of a node as in claim 1 above. O'Toole further teaches wherein to identify another node as a prospective parent node if it is within a specified range of the node **(Fig. 1, unit 33 – sample map – col. 8, lines 26-27).**

Regarding claim 10, Gregerson and O'Toole together taught the method of a node as in claim 1 above. Gregerson further teaches wherein in the event that the primary connection fails **(PLN employs a system of "heartbeat" messages, which is used to monitor the status of nodes within the network and identify network failures, Col. 6, Lines 22-24).**

O'Toole further teaches wherein in the event that the primary connection fails to re-establish a primary connection with another node which is at a lower level in the network hierarchy than the node **(FIG. 2 illustrates an example of relationships**

among nodes in a network, including a creation signal and a termination signal generated by nodes configured to operate in accordance with embodiments of the invention – col. 6, lines 30-33).

Regarding claim 11, Gregerson and O'Toole together taught the method of a node as in claim 1 above. Gregerson further teaches wherein in which the specified number k of connections is substantially the same for every node **(A kernel at level n is termed to be a child of its parent kernel at level n+l provided that the two kernels have the same name above level n, Col. 7, Lines 39-44; The present invention is a dynamic, Symmetrical, distributed, real-time, peer-to-peer system Col. 2, Lines 46-53)).**

Regarding claim 12, Gregerson teaches wherein a node for a network, the network comprising a hierarchical structure in which a node is considered to be at a higher level than a parent node to which it connects when joining the network, the network having a topology type in which each node joining the network is considered by the same connection rules to have a maximum number of connections, and wherein the peripheral nodes are not allowed to have fewer connections than the more central nodes in the network, the node being adapted to join the network by applying said connection rules, the rules comprising the following steps in order to join a new node to said network in which each node has a maximum of k connections:

identifying a parent node at a lowest level in the network that is able to maintain secondary connections to other nodes in the network of the same lowest level **(Fig. 9 --**

is a diagram showing the roll call communication between different nodes in accordance with the present invention – col. 3, lines 51-53; FIG. 14 is a diagram showing the election communication between different nodes in accordance with the present invention – col. 2, lines 65-67);

Initiating and maintaining a specified number k-1 of further secondary connections between the node and other nodes in the network having the same level in the hierarchy as the node **(A kernel at level n is termed to be a child of its parent kernel at level n+1 provided that two kernels have the same name above level n – Col. 7, lines 41-44).**

However, Gregerson is silent in terms of "*terminated and reallocated of the nodes" and* "*spare connection*".

O'Toole teaches that is well known to utilize by requesting one of the secondary connections of the parent node to other nodes in the network of the same level to be terminated and reallocated to the node if the identified parent node has no free links to become a primary connection between the identified parent node and the node at a lower level in the network hierarchy **(Each child node periodically checks in with its parent nodes, and the parent nodes can thus determine when a child node has terminated a relationship with the parent or created "here is same as re-allocated" a new relationship with a new parent -- Abstract)** and

the node advertise a spare connection to maintaining k connections to each node **(broadcasting and the Alt-route –FIG. 2 illustrates an example of relationships among nodes in a network, including a creation signal and a termination signal**

generated by nodes configured to operate in accordance with embodiments of the invention – col. 6, lines 30-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gregerson's invention by using the system of a network in which nodes such as a host, a hub, rooter, etc. are interconnected, each node is indicated by an icon, and the connection between the nodes is indicated by a line. A node to be regarded is positioned in the center of the map as a root, and a node directly connected to the root is arranged as a node at the second hierarchical level on the circumference of the circle with the root centered. Similarly, the network configuration is assumed to be a hierarchical structure with the root centered, where the root can receive change information, because each child node in the node tree periodically checks in with its parent and reports its status to the parent, as well as information on the status of descendants of the child in the network. For example, a new parent of a child reports a creation signal (e.g., creation of a relationship between the node and a child) when a child node connects to a new parent node. A parent node can also generate a termination relationship signal (e.g., termination of a relationship between the node and a child) when one of its child nodes ends the relationship with the parent node (e.g. stops checking in). At a higher level in the tree, if an intermediate node (e.g., parent node intermediate between lower level parents and the root) receives several creation and termination signals for a lower level node (e.g., a child node that has moved several times), it can report only the most recent creation and termination signals to higher level nodes in the network. Thus, the root only receives the creation

and termination signals that are most recent for a given node (e.g., child node). In addition, the node that received the change relationship signal locates an entry in the map corresponding to the parent node, and updates the entry for the parent node to indicate that the child node is no longer a child of that parent node, where this indicates that there was spare or free link created and would be available to accept the new child node which were from depended on different parent nodes or failed their connectivity with their parent node, <u>as taught by O'Toole</u>.

Regarding claim 14, Gregerson and O'Toole together taught the method of a node as in claim 12 above. Gregerson further teaches wherein to attempt to maintain the specified number of k-1 further connections between the node and other nodes in the network by periodically carrying out:

for each unallocated one of the k-1 connections, selecting a node from one or more candidate nodes, and forming a connection with the selected node **(A kernel enters the network by running the Login process to locate its parent kernel, Col. 7, Lines 56-67)**,

<u>O'Toole</u> further teaches wherein until either the k-1 further connections have been successfully completed or there are no more candidate nodes **(FIG. 2 illustrates an example of relationships among nodes in a network, including a creation signal and a termination signal generated by nodes configured to operate in accordance with embodiments of the invention – col. 6, lines 30-33).**

Regarding claim 15, Gregerson and O'Toole together taught the method of a node as in claim 12 above. Gregerson further teaches wherein the step of selecting the peer node comprises selecting the peer node at random from the one or more candidate nodes **(The present invention is a dynamic, Symmetrical, distributed, real-time, peer-to-peer system comprised of an arbitrary "here is same as random" number of identical, Col. 2, Lines 46-53).**

O'Toole further teaches **(nodes are chosen at random – Col. 31, lines 26-27).**

Regarding claim16, Gregerson and O'Toole together taught the method of a node as in claim 12 above. Gregerson further teaches wherein the step of selecting the node comprises selecting the node on the basis of the range of the candidate nodes to the node **(The configuration parameter MaxStatus imposes a ceiling on the highest level of which the kernel can be a manager. A kernel at level n is termed to be a child of its parent kernel at level n+l -- Col. 7, Lines 39-44).**

Regarding claim17, Gregerson and O'Toole together taught the method of a node as in claims 12 above. Gregerson further teaches wherein the network comprises an overlay network formed over an underlying network of nodes **(Fig. 14, underlying mix of physical topologies -- Col. 2, Lines 59-60)**, and wherein the range between a candidate node and the node comprises the number of links between them in the underlying network **(A kernel at level n is termed to be a child of its parent kernel at**

level n+l provided that the two kernels have the same name above level n -- Col. 7, Lines 39-44).

Regarding claim 19, Gregerson and O'Toole together taught the method of a node as in claims 12, above. O'Toole further teaches wherein to identify another node as a prospective parent node on the basis of the range of the other node to the node **(Fig. 1, unit 33 – sample map – col. 8, lines 26-27).**

Regarding claim 20, Gregerson and O'Toole together taught the method of a node as in claim 12 above. O'Toole further teaches wherein to identify another node as a prospective parent node if it is within a specified range of the node **(Fig. 1, unit 33 – sample map – col. 8, lines 26-27).**

Regarding claim 21, Gregerson and O'Toole together taught the method of a node as in claim 12 above. Gregerson further teaches wherein in the event that the primary connection fails **(PLN employs a system of "heartbeat" messages, which is used to monitor the status of nodes within the network and identify network failures, Col. 6, Lines 22-24).**

O'Toole further teaches wherein in the event that the primary connection fails to re-establish a primary connection with another node which is at a lower level in the network hierarchy than the node **(FIG. 2 illustrates an example of relationships among nodes in a network, including a creation signal and a termination signal**

generated by nodes configured to operate in accordance with embodiments of the invention – col. 6, lines 30-33).

Regarding claim 22, Gregerson and O'Toole together taught the method of a node as in claim 12 above. Gregerson further teaches wherein in which the specified number k of connections is substantially the same for every node **(A kernel at level n is termed to be a child of its parent kernel at level n+l provided that the two kernels have the same name above level n, Col. 7, Lines 39-44; The present invention is a dynamic, Symmetrical, distributed, real-time, peer-to-peer system Col. 2, Lines 46-53)).**

Regarding claim 23, Gregerson and O'Toole together taught the method of a node as in claim 12 above. O'Toole further teaches wherein a tangible data store containing a computer program comprising instructions for causing one or more processors to operate as the node when the instructions are executed by the processor or processors **(Fig. 1, unit 33 – 24 NODE D – col. 8, lines 15-30).**

Regarding claim 24, Gregerson and O'Toole together taught the method of a node as in claim 12 above. O'Toole further teaches wherein a storage medium carrying computer readable code representing instructions for causing one or more processors to operate as the node when the instructions are executed by the processor or processors **(Fig. 1, unit 33 – 24 NODE D – col. 8, lines 15-30).**

Regarding claim 26, Gregerson and O'Toole together taught the method of a node as in claim12 above. O'Toole further teaches wherein a tangible data store containing a computer program comprising instructions for causing one or more processors to operate as the node when the instructions are executed by the processor or processors **(Fig. 1, unit 33 – 24 NODE D – col. 8, lines 15-30).**

Regarding claim 27, Gregerson and O'Toole together taught the method of a node as in claim 12 above. O'Toole further teaches wherein a storage medium carrying computer readable code representing instructions for causing one or more processors to operate as the node when the instructions are executed by the processor or processors **(Fig. 1, unit 33 – 24 NODE D – col. 8, lines 15-30).**

Regarding claims 29 Gregerson and O'Toole together taught the method of a node as in claim 12 above. O'Toole further teaches wherein the node is adapted to:

upon receipt of a request from a further node desiring to form its primary connection with the node and in the event that none of the k- 1 of further connections of the node is unallocated, then to: select one of the further k-1 connections which is not a primary connection for one of the other nodes; and to re-allocate that selected further connection to the further node so as to form the primary connection for the further node **(The technique includes identifying resources that join the network by switching from an inactive to an active state; and informing the requester the availability of the requested resource, Abstract, Lines 8-11).**

Regarding claim 30 Gregerson and O'Toole together taught the method of a node as in claim 12 above. O'Toole further teaches wherein the node is adapted to:

upon receipt of a request from a further node desiring to form its primary connection with the node and in the event that none of the k- 1 of further connections of the node is unallocated, then to: select one of the further k-1 connections which is not a primary connection for one of the other nodes; and to re-allocate that selected further connection to the further node so as to form the primary connection for the further node **(The technique includes identifying resources that join the network by switching from an inactive to an active state; and informing the requester the availability of the requested resource, Abstract, Lines 8-11).**

Regarding claim 31, Gregerson teaches wherein a node for a network, the network comprising a hierarchical structure in which a node is considered to be at a higher level than a parent node to which it connects when joining the network, the network having a topology type in which each node joining the network is considered by the same connection rules to have a maximum number of connections, and wherein the peripheral nodes are not allowed to have fewer connections than the more central nodes in the network, the node being adapted to join the network by applying said connection rules, the rules comprising the following steps in order to join a new node to said network in which each node has a maximum of k connections:

identifying a parent node at a lowest level in the network that is able to maintain

secondary connections to other nodes in the network of the same lowest level **(Fig. 9 -- is a diagram showing the roll call communication between different nodes in accordance with the present invention – col. 3, lines 51-53; FIG. 14 is a diagram showing the election communication between different nodes in accordance with the present invention – col. 2, lines 65-67);**

Initiating and maintaining a specified number k-1 of further secondary connections between the node and other nodes in the network having the same level in the hierarchy as the node **(A kernel at level n is termed to be a child of its parent kernel at level n+1 provided that two kernels have the same name above level n – Col. 7, lines 41-44).**

However, Gregerson is silent in terms of "*terminated and reallocated of the nodes" and* "*spare connection*"*.*

O'Toole teaches that is well known to utilize by requesting one of the secondary connections of the parent node to other nodes in the network of the same level to be terminated and reallocated to the node if the identified parent node has no free links to become a primary connection between the identified parent node and the node at a lower level in the network hierarchy **(Each child node periodically checks in with its parent nodes, and the parent nodes can thus determine when a child node has terminated a relationship with the parent or created "here is same as re-allocated" a new relationship with a new parent -- Abstract)** and

the node advertise a spare connection to maintaining k connections to each node **(broadcasting and the Alt-route –FIG. 2 illustrates an example of relationships**

among nodes in a network, including a creation signal and a termination signal generated by nodes configured to operate in accordance with embodiments of the invention – col. 6, lines 30-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gregerson's invention by using the system of a network in which nodes such as a host, a hub, rooter, etc. are interconnected, each node is indicated by an icon, and the connection between the nodes is indicated by a line. A node to be regarded is positioned in the center of the map as a root, and a node directly connected to the root is arranged as a node at the second hierarchical level on the circumference of the circle with the root centered. Similarly, the network configuration is assumed to be a hierarchical structure with the root centered, where the root can receive change information, because each child node in the node tree periodically checks in with its parent and reports its status to the parent, as well as information on the status of descendants of the child in the network. For example, a new parent of a child reports a creation signal (e.g., creation of a relationship between the node and a child) when a child node connects to a new parent node. A parent node can also generate a termination relationship signal (e.g., termination of a relationship between the node and a child) when one of its child nodes ends the relationship with the parent node (e.g. stops checking in). At a higher level in the tree, if an intermediate node (e.g., parent node intermediate between lower level parents and the root) receives several creation and termination signals for a lower level node (e.g., a child node that has moved several times), it can report only the most recent creation and termination

signals to higher level nodes in the network. Thus, the root only receives the creation and termination signals that are most recent for a given node (e.g., child node). In addition, the node that received the change relationship signal locates an entry in the map corresponding to the parent node, and updates the entry for the parent node to indicate that the child node is no longer a child of that parent node, where this indicates that there was spare or free link created and would be available to accept the new child node which were from depended on different parent nodes or failed their connectivity with their parent node, <u>as taught by O'Toole</u>.

Response to Arguments

Applicant's arguments filed on 08/05/2008 have been fully considered but they are not persuasive.

<u>Applicant Arguments:</u>

Gregerson gives no guidance of ant form of connection rules that would in an way minimize or maximize the number of interconnections made between nodes

<u>Examiner Response:</u>

With respect to Applicant arguments, it is the claims that define the claimed invention, and it is claims, not specifications that are anticipated or unpatentable. *Constant v. Advanced Micro-Devices Inc.*, 7 USPQ2d 1064.

However, **Gregerson** discloses the number of levels in PLN 33 is defined by MinLevel and MaxLevel. The kernels that have normal privileges are configured at MinLevel and are not managers. On the other hand, a kernel that is the Network Manager is configured at MaxLevel and has the potential to become the Network Root. The configuration parameter MaxStatus imposes a ceiling on the highest level of which the kernel can be a manager. A kernel at level n is termed to be a child of its parent kernel at level n+1 provided that the two kernels have the same name above level n. Gregerson further discloses wherein If no parent kernel sends a login acknowledgement to the child, the child kernel begins the Login process again (step 101) unless the retry threshold has been exceeded (step 111). If the retry threshold has been exceeded, the child checks its MaxStatus setting (step 112). If the child's MaxStatus is greater than MinLevel, the child begins the Role Call process to assume the role of its own parent. Otherwise, the child kernel will enter the Login wait period again (step 101). Furthermore, Gregerson discloses “Role Call” procedure by which a kernel queries the network to find out vacancies in the name space hierarchy. The procedure is executed by all kernels who have been configured with MaxStatus greater than MinLevel. The Role Call procedure is invoked by a kernel upon startup and subsequently when there is a managerial vacancy in its namespace. The Role Call algorithm is designed to minimize the number of kernels simultaneously participating in the Role Call process, reducing network-wide broadcasts as well as possible collisions between potential contenders for the same vacancy. Therefore Examiner maintains the rejection.

Applicant Arguments:

This can not be possibly anticipate or suggest “initiating and maintaining a specified number k-1 of further secondary connections between the node and other nodes in the network having the same level in the hierarchy as the node.”

Examiner Response:

Gregerson discloses as shown in FIG. 4, the PLN building and maintenance algorithm comprises five main processes: Login (shown as block 100), Role Call (shown as block 200), Monitor (shown as block 300), Election (shown as block 400), and Logout (shown as block 500). In this description, the following terms are used in order to allow for the appropriate abstraction. The number of levels in PLN 33 is defined by MinLevel and MaxLevel. The kernels that have normal privileges are configured at MinLevel and are not managers. On the other hand, a kernel that is the Network Manager is configured at MaxLevel and has the potential to become the Network Root. The configuration parameter MaxStatus imposes a ceiling on the highest level of which the kernel can be a manager. A kernel at level n is termed to be a child of its parent kernel at level n+1 provided that the two kernels have the same name above level n. Therefore Examiner maintains the rejection.

Applicant Arguments:

Neither cited prior art document provides node connection rules for network growth with dictate what kinds of connection a node is to form when it joins a network.

Examiner Response:

Gregerson discloses a method including generating a logical hierarchy of the roles of the nodes where any node can assume one or multiple roles; and negotiating the role of the nodes when there is a change in the configuration of the network. Another technique locates resources requested by a node in a scalable system interconnecting many nodes in a network. The technique includes identifying resources that join the network by switching from an inactive to an active state; and informing the requester the availability of the requested resource. A further technique determines routing paths in a context bridge which is able to route packets between nodes. Gregerson discloses further, as new resources join (or rejoin) the network, the kernel residing at each node, and thus each resource connected to that node, automatically and immediately becomes accessible to all applications using the system. The role(s) assumed by any node within the managerial hierarchy employed (e.g., area manager, domain manager, network manager, etc.) is arbitrary, i.e., any node can assume one or multiple roles within the hierarchy, and assuming one role neither requires nor precludees assumption of any other role. Further, the roles dynamically change based on the requirements of the network, i.e., as one or more nodes enter or leave the network. Thus, the individual kernels dynamically locate one another and negotiate the roles played by the associated nodes in managing the network hierarchy without regard to their physical location.

O'Toole further discloses once a node has an IP configuration it contacts a global, well-known registry, sending along its unique serial number. Based on a node's serial number, the registry provides a list of the Overcast networks the node should join, an optional permanent IP configuration, the network areas it should serve, and the access controls it should implement. In addition, O'toole further describes The change relationship signal 25 includes a sequence number 38 that indicates how many times a node 24 has changed relationships, as will be discussed in more detail for FIG. 4. For example, when node F, 24, joined the network and created a relationship with node E, 24 (e.g., made a connection to node E, 24, on the network, or made a logical connection to node E, 24, by establishing a path over the Internet or other network), the map maintainer 34 for node D, 24, received a change relationship signal 25 indicating the new relationship. The map maintainer 34 then updates the data in the sample map 33 to its current state, so that the map 33 indicates that node F, 24, is the child of node E, 24, and that node F, 24, has no children of its own. Therefore, Examiner maintains the rejection.

Conclusion

Applicant's arguments filed on 08/05/2008 have been fully considered but they are not persuasive. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sulaiman Nooristany whose telephone number is (571) 270-1929. The examiner can normally be reached on M-F from 9 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu, can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sulaiman Nooristany 10/29/2008

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2446